

WHAT IS CLAIMED IS:

1. A method for assembling a turbine engine to facilitate preventing ice accumulation on the turbine engine during engine operation, said method comprising:

coupling at least one heat pipe to the engine such that a first end of the at least one heat pipe is coupled in thermal communication with a heat source; and

coupling a second end of the at least one heat pipe in thermal communication with an outer surface of an engine component that is upstream from the heat source.

2. A method in accordance with Claim 1 wherein coupling at least one heat pipe to the engine such that a first end of the at least one heat pipe is coupled in thermal communication with a heat source further comprises coupling the first end of the at least one heat pipe to at least one of an engine frame strut, an oil tank, a sump, and a compressor casing.

3. A method in accordance with Claim 1 wherein coupling at least one heat pipe to the engine such that a first end of the at least one heat pipe is coupled in thermal communication with a heat source further comprises coupling the first end of the at least one heat pipe to at least one of an environmental bleed air manifold and a compressor discharge bleed air manifold.

4. A method in accordance with Claim 1 wherein coupling a second end of the at least one heat pipe further comprises coupling the at least one heat pipe second end in thermal communication with at least a portion of an outer surface of an engine stator assembly.

5. A method in accordance with Claim 1 wherein coupling a second end of the at least one heat pipe further comprises coupling the at least one heat pipe second end in thermal communication with at least a portion of an outer surface of an

engine component to facilitate preventing ice accretion across the outer surface of the engine component.

6. An ice protection system for a turbine engine, said ice protection system comprising at least one heat pipe coupled in thermal communication between a heat source and an outer surface of at least one engine component, said ice protection system facilitates at least one of preventing and mitigating ice accretion across the engine component outer surface.

7. An ice protection system in accordance with Claim 6 wherein said heat source comprises at least one of an engine frame strut, an oil tank, a sump, and a compressor casing.

8. An ice protection system in accordance with Claim 6 wherein said heat source comprises at least one of an environmental bleed air manifold and a compressor discharge bleed air manifold.

9. An ice protection system in accordance with Claim 6 wherein said at least one heat pipe is coupled in thermal communication to an outer surface of at least one of an inlet guide vane assembly, a splitter, and an outlet guide vane assembly.

10. An ice protection system in accordance with Claim 6 wherein said at least one heat pipe is coupled in thermal communication to an outer surface of at least a portion of an engine stator assembly.

11. An ice protection system in accordance with Claim 6 wherein said at least one heat pipe comprises a plurality of heat pipes coupled together in thermal communication.

12. An ice protection system in accordance with Claim 6 wherein said at least one heat pipe facilitates reducing at least one of engine stalls and engine flameouts.

13. A gas turbine engine comprising:

a stator assembly comprising an external surface;
a heat source downstream from said stator assembly; and
an ice protection system comprising at least one heat pipe coupled in thermal communication between said heat source and said stator assembly outer surface.

14. A gas turbine engine in accordance with Claim 13 wherein said ice protection system facilitates at least one of preventing and mitigating ice accretion across said stator assembly outer surface.

15. A gas turbine engine in accordance with Claim 13 wherein said stator assembly comprises at least one of an inlet guide vane assembly, a splitter, and an outlet guide vane assembly.

16. A gas turbine engine in accordance with Claim 13 wherein said at least one ice protection system heat pipe comprises a plurality of heat pipes coupled together in thermal communication.

17. A gas turbine engine in accordance with Claim 13 wherein said ice protection system facilitates reducing at least one of engine stalls and engine flameouts.

18. A gas turbine engine in accordance with Claim 13 wherein said heat source comprises at least one of an engine frame strut, an oil tank, a sump, and a compressor casing.

19. An ice protection system in accordance with Claim 13 wherein said heat source comprises at least one of an environmental bleed air manifold and a compressor discharge bleed air manifold.

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